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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,018	02/06/2004	Beatrix Kottwitz	HENK-0060/H4714	7927
38857 7590 03/11/2009 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891				
EXAMINER				
MOORE, WILLIAM W				
ART UNIT		PAPER NUMBER		
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03/11/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/774,018

Applicant(s)

KOTTWITZ ET AL.

Examiner

WILLIAM W. MOORE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 79-81 and 83-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 79-81 and 83-97 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 January 2009 has been entered. No amendments to claims 79-81 and 83-87 pending herein were submitted with Applicant's Remarks setting forth arguments traversing the rejections of record stated in the communication mailed 30 September 2008. Claims 79-81 and 83-87 remain in the application and Applicant's Remarks at pages 2 and 4 of the submission filed 28 January 2009 are addressed below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 USC § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 79-81, 83 and 84 remain rejected for reasons of record under 35 USC § 103(a) as being obvious over Conrad et al., 1995, and Mitchinson et al., **US 5,736,499**, both of record.

Applicant's arguments in the Remarks filed 28 January 2009 with respect to claims 79-81, 83, and 84 have been fully considered but they are not persuasive. Applicant does not dispute that hybrid α -amylases taught by Conrad et al., such as the AL34, AL76, and AL112 enzymes, meet structural limitations stated for an α -amylase required in claimed composition where they share complete identity with the amino acid sequences set forth in SEQ IDs NOs:6, 8, or 10, according to claims rejected herein. Applicant again proposes in the Remarks filed 28 January 2009, as before in Remarks filed 9 December 2008, that the prior art teaches away from incorporating a hybrid α -amylases that meets the structural limitations stated by claims 79-81, 83 and 84 taught by Conrad et al. in a detergent composition because two of these hybrid α -amylases of Conrad et al. – the AL76 and AL112 hybrid α -amylases – exhibited slightly less thermostability than the native *Bacillus licheniformis* α -amylase of SEQ ID NO:4 herein while the AL34 hybrid α -amylase exhibited slightly greater thermostability than the native *B.*

licheniformis α -amylase. Yet Applicant submits no claim amendment(s) consonant with the arguments previously and currently proffered, i.e., requiring that a hybrid α -amylase incorporated in a detergent composition exhibit a particular degree of thermal stability, e.g., "greater than", or "equal to", than the thermal stability of the native *Bacillus licheniformis* α -amylase. Applicant's argument is unpersuasive because Conrad et al. teach that these three hybrid α -amylases retain significant thermostability as measured by residual activity at 37°C after heat treatment at 90°C for either 15 minutes or 30 minutes. See the results depicted for the AL34, AL76 and AL112 hybrid α -amylases in Figure 3 at page 485. The retention of, respectively, 105%, 85%, and 92% of the amylolytic activity of the native *B. licheniformis* α -amylase of SEQ ID NO:4 after heat treatment at 90°C for either 15 minutes or 30 minutes – in each instance a retained amylolytic activity that is substantially greater than that exhibited by the native *B. amyloliquefaciens* α -amylase after heat treatment at 90°C for either 15 minutes or 30 minutes – is not considered to have been any disincentive at all to one of ordinary skill in the art seeking to select an α -amylase for incorporation in a cleaning composition. The results shown by Conrad et al. fail to indicate that these hybrid α -amylases would be susceptible to a "rapid quenching of amylolytic activity during the cleaning process reduces the level of cleaning that results" such as that mentioned by Mitchinson et al. upon which Applicant's arguments were premised in the Remarks filed 9 December 2008. "In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under [35 U.S.C.] § 103. One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1398 (U.S. 2007).

Conrad et al. do not teach the preparation of a cleaning agent that comprises any of their α -amylase fusion polypeptides, thus Mitchinson et al., of record, are now cited for their teaching of the formulation of a cleaning agent, which is a detergent composition, comprising an amylase having the amino acid sequence of their SEQ ID NO:34, which shares 96.7% sequence identity with SEQ ID NO:8 herein, together with other enzymes such as "endoglycosidases, proteases, lipases cellulases and other amylases". See col. 4, lines 20-36, and the paragraphs spanning col. 9, line 57, through col. 10, line 29, lines 24-33, and page 81, lines 9-15, of the specification, and claims 1 and 22-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the exceptionally thermostable hybrid AL34, AL76 and AL112 α -amylases taught by Conrad et al. in a detergent composition/ cleaning agent of

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Mitchinson et al., because Mitchinson et al. teach that other amylases are advantageously incorporated in their cleaning composition and because such an artisan would have readily appreciated that hybrid AL34, AL76 and AL112 α -amylases of Conrad et al. retain high degrees of thermostability and are appropriate components for such cleaning compositions.

Claims 85-97 remain rejected for reasons of record under 35 U.S.C. § 103(a) as being unpatentable over Conrad et al. and Mitchinson et al., as applied to claims 79-81, 83, and 84 above and further in view of Sadlowski et al., **US 6,656,899**, of record.

Applicant's presents no separate argument addressing the teachings of Sadlowski et al. in the Remarks filed 28 January 2009, thus the rejection of record is again stated. Teachings of Conrad et al. and Mitchinson et al. discussed above are taken as before. Sadlowski et al. teach the preparation of amylase-comprising liquid detergent compositions, i.e., cleaning agents, having both liquid and solid phases that comprise different enzymes, including one or more proteases, one or more amylases, one or more lipases, one or more cellulases, and one or more β -glucanases, wherein any enzyme may be present in a weight percentage range from "about 0.01% to about 5%", or at a range from "about 0,01 to about 3mg . . . per gram of composition" and that further comprises components – hydrotropes e.g., alkylethoxy sulfates – and a system of mechanical stabilization – the formation of solid prills – that stabilize enzymatic activity, such as amylolytic activity of amylases, or increase the contribution of enzymes, such as amylases, to the washing or cleaning performance of the agent. See col. 17, line 46, through col. 20, line 14. Sadlowski et al. additionally teach the preparation of further solid components that are "cleaning agents", just as enzyme prills are "cleaning agents", included in their compositions that are "cleaning agents", in the form of granules that comprises two solid phases, the outer encapsulating the inner, wherein one of the two solid phases of the granule is a starch that is susceptible to the amylolytic activity of an amylase permitting its decomposition upon dilution of the detergent composition in an aqueous wash solution in a method of, e.g., cleaning textiles, where the granules, "filler particles" are no longer needed in the aqueous environment of the wash solution. See cols. 3-17, and particularly col. 6, lines 42-52, and col. 7, lines 43-57.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add one or more of the considerably thermostable hybrid AL34, AL76 and AL112 α -amylase taught by Conrad et al. to a cleaning agent taught Sadlowski et al., within the ranges of representation for any enzyme therein taught by Sadlowski et al. which are within ranges recited in claim 85, where Sadlowski et al. teach that multiple forms any particular category of enzyme such as amylases may be incorporated. This is because Sadlowski et al. teach that the starch-

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degrading activity of amylases is advantageous for the proper utilization of their two-solid phase granules wherein one phase comprises starch, because Mitchinson et al. teach that multiple amylases are advantageously incorporated in a cleaning composition, and because such an artisan would have readily appreciated the advantage of incorporating one of the significantly thermostable hybrid AL34, AL76 and AL112 α -amylase taught by Conrad et al. in a cleaning agent of Sadlowski et al. It would have also been obvious as well to such an artisan at that time to practice a method for cleaning, at least, textiles by cleaning the textile in an aqueous wash solution with a cleaning agent taught by Sadlowski et al. comprising one or more of the very thermostable hybrid AL34, AL76 and AL112 α -amylases taught by Conrad et al. where dilution of the cleaning agent in the wash solution would inherently result in a concentration of amylase therein within the range indicated in claim 95 and the cleaning agent of Sadlowski et al. comprises multiple phases. This is because Sadlowski et al. teach that such is the purpose of their cleaning agent and because such an artisan would have readily appreciated that the very thermostable hybrid AL34, AL76 and AL112 α -amylases taught by Conrad et al. would serve advantageously in such a method comprised in a cleaning composition of Sadlowski et al.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to William W. Moore whose telephone number is 571.272.0933 and whose FAX number is 571.273.0933. The examiner can normally be reached Monday through Friday between 9:00AM and 5:30PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisory Primary Examiner, Jon P. Weber, can be reached at 571.272.0925. The official FAX number for all communications for the organization where this application or proceeding is assigned is 571.273.8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571.272.1600.

/William W. Moore/
Examiner, Art Unit 1656

/Rebecca E. Prouty/
Primary Examiner,
Art Unit 1652